

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
29 September 2005 (29.09.2005)

PCT

(10) International Publication Number  
**WO 2005/090051 A1**

(51) International Patent Classification<sup>7</sup>: **B29C 45/27**

(21) International Application Number:  
PCT/EP2005/051385

(22) International Filing Date: 24 March 2005 (24.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
RM2004A000154 24 March 2004 (24.03.2004) IT

(71) Applicant (for all designated States except US): **S.I.P.A. SOCIETÀ INDUSTRIALIZZAZIONE PROGETTAZIONE E AUTOMAZIONE S.P.A.** [IT/IT]; Via Caduti del Lavoro 3, I-31029 Vittorio Veneto (IT).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **ZOPPAS, Matteo**

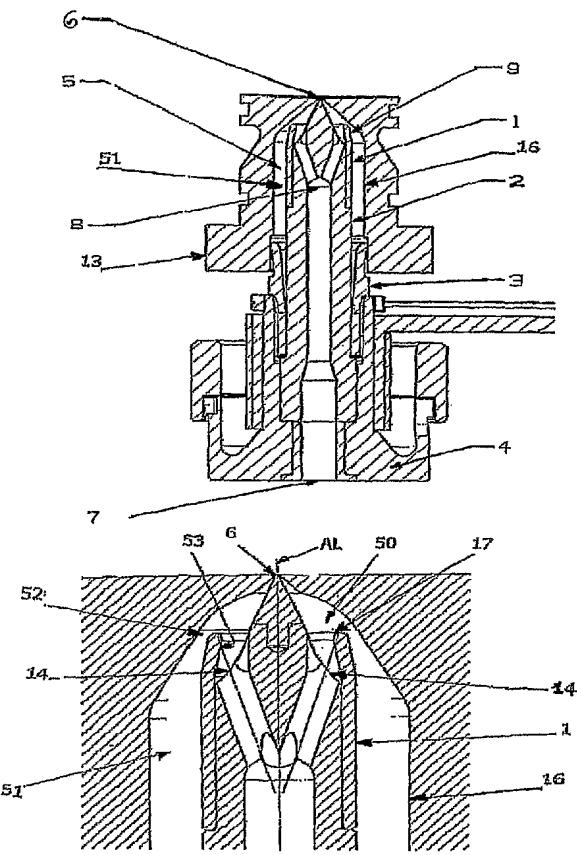
[IT/IT]; Via XX Settembre, 122, I-31015 Conegliano (IT). **GIACOMAZZI, Denis** [IT/IT]; Via Garibaldi 41/B, 31010 Cimadolmo. **VENDRASCO, Luca** [IT/IT]; Via Brescacin 15, I-31012 Cappella Maggiore (IT). **COROCHER, Carlo** [IT/IT]; Via Maset 30/C, I-31015 Conegliano (IT).

(74) Agents: **CINQUANTINI, Bruno** et al.; Notarbartolo & Gervasi S.p.A., Corso di Porta Vittoria 9, I-20122 Milan (IT).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: INJECTION DEVICE



(57) Abstract: A nozzle comprises a hollow element comprising a recess and an injection hole (6) to inject fluid plastic into a mould, a heating tip which penetrates inside the recess and forms, together with the recess itself, a holding cavity (5) into which the channels (14) run. The holding cavity (5) comprises a narrow section (52) which separates the holding cavity (5) into a rear portion (51) and a front portion (50), in order to reduce or completely prevent exchanges of fluid plastic between the two areas.

WO 2005/090051 A1



(84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Declaration under Rule 4.17:**

— *of inventorship (Rule 4.17(iv)) for US only*

**Published:**

— *with international search report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*